WASTE UTILIZATION PLAN FOR RANGELAND, HAYLAND, AND PASTURELAND

NOTE: THIS SPREADSHEET IS NOT INTENDED FOR USE ON PRODUCTION CROPLAND.

FOR:
COUNTY:
ASSISTED BY:

DATE:

RESOURCE INVENTORY

Type of Animal:

= no. of animals
= avg. weight (lbs)
= no. of days/yr. waste produced
= waste produced - lb/day/1000# animal (as excreted)
= as excreted moisture content % (varies with type of animal)

LEGEND:
You enter numbers or info
Numbers automatically calculated
Numbers from manure analysis or soils test

MANURE PRODUCTION AS EXCRETED

Total Manure Produced= 0 T
(#of animalsXavg.wt.X1T/2000#X#daysXwaste produced/day,

Dry Matter Production = 0 T
((100%-%moisture)Xtotal manure produced,

ASSUME 30% MOISTURE AT TIME OF LAND APPLICATION

Dry Matter Remaining = 0 T
(dry matter produced+(30%/70%Xdry matter produced),

NUTRIENT PRODUCTION (*may use average amounts from P. Shelton or amounts from manure analysis*)

(beef, dairy, horse, & sheep will have different amounts)

		Average Nutrient Production			Manure Analysis	
NO_3 - N	=		lb/T	OR		lb/T
NH4 - N	=		lb/T	OR		lb/T
Org. N	=		lb/T	OR		lb/T
P_2O_5	=		lb/T	OR		lb/T
K_2O	=		lb/T	OR		lb/T

Nutrients Available after Mineralization (mineralization rates vary with type of animal waste) (NO3 and NH4 nitrogen are available to plants immediately, while organic nitrogen is only available as it gets broken down by microbes)

NO3 - N: mineralization rate =
NO3 - N: available = 0 lb/T OR lb/T
(mineralization rateXNO3 produced,

NH4 - N: mineralization rate =
NH4 - N: available = 0 lb/T OR lb/T
(mineralization rateXNH4 produced,

Organic N: mineralization rate=
Organic N available = 0 lb/T OR lb/T
(mineralization rateXOrganicN produced,

Total N available = 0 lb/T OR lb/T
(NO3+NH4+Organic N)

P: mineralization rate =
P2O5 available = 0 lb/T OR lb/T
(mineralization rateXP2O5 produced,

K: mineralization rate =
K2O available = 0 lb/T OR lb/T
(mineralization rateXK2O produced,

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NUTRIENT REQUIREMENTS FOR GRASS OR LEGUME *(May use average amounts from P. Shelton or amounts from soils test)*

Where will manure be spread? Fill in as appropriate:

	Pasture		Dryland		% grass	Goal Yield =	T/ac
	Hayland		Irrigated		% legume		
	Rangeland						

	Average		Soils Test	
NO3-N soil content =		PPM	OR	PPM
P2O5 soil content =		PPM	OR	PPM
K2O soil content =		PPM	OR	PPM

From "Guide to Wyoming Fertilizer Recommendations" (also known as WY NRCS Agronomy Tech. Note 10 or Extension Service Bulletin B-1045)

N required =		lb/acre	(from Table 5)
P2O5 required =		lb/acre	(from Table 6)
K2O required =		lb/acre	(from Table 7)

MANURE APPLICATION RATE PER ACRE (nutrients required for your crop less the amount already in the soil)

	Calculated from average Nutrient Production		Calculated from Manure Analysis	
Applied at N rate: *(N required/Total N available)*	#DIV/0!	T Manure/ac	#DIV/0!	T Manure/ac
Applied at P2O5 rate: *(P2O5 required/P2O5 available)*	#DIV/0!	T Manure/ac	#DIV/0!	T Manure/ac
Applied at K2O rate: *(K2O required/K2O available)*	#DIV/0!	T Manure/ac	#DIV/0!	T Manure/ac

ACRES NEEDED FOR APPLICATION (Based on manure production)

NOTE: For rangeland or dry pasture applications, where no soils test has been performed, apply at 1/2 the calculated rate (in other words, multiply the acres by 2).

	Calculated from average values		Calculated from Manure and Soils Tests	
Applied at N rate: *(Dry Matter remaining/N Application Rate)*	#DIV/0!	acres	#DIV/0!	acres
Applied at P2O5 rate: *(Dry Matter remaining/P2O5 Application Rate)*	#DIV/0!	acres	#DIV/0!	acres

ECONOMIC VALUE OF NUTRIENTS PRODUCED (Assumes 45% mineralization rate of organic nitrogen)

Economic Value = Cost ($) per lb of nutrient if commercially applied

Nitrogen =	0.34	$ per lb
Phos =	0.17	$ per lb
Potass =	0.16	$ per lb

Nitrogen Value =	$0.00	$	$0.00	$
Phosphorous Value =	$0.00	$	0	$
Potassium Value =	$0.00	$	0	$

Narrative:

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****This spreadsheet was developed to simplify nutrient management and application on rangeland, hayland, and pastureland. The following will apply for the use of this spreadsheet only and for applications only on rangeland, hayland, and pastureland.*

Rangeland: *In lieu of a soils test,* manure application will be on upland range sites. Site considerations will include: slopes (0 to 2% is preferred), distance to surface water, distance to groundwater, and soil depth.

Dry Pasture and Hayland: Use same criteria as for application on rangeland.

Irrigated Pasture and Hayland: *A soils test will be required once every 5 years.*

***If adequate suitable upland sites are not available for manure application, further specific site investigations will be required.

***A map or records showing application times and rates should be kept by the landowner/user.

***A manure analysis is strongly encouraged, although not required. The nutrient value of manure varies depending upon the type of feed, environmental conditions, and the way the manure is handled prior to application.

_____ _____

Signature of NRCS Specialist Date Signature of Landowner/User Date

******This spreadsheet is available for your use to estimate waste production and application needs. Without the certification AND SIGNATURE of a certified NRCS specialist, NRCS makes no claims to the accuracy and validity of any figures on or obtained by the use of this spreadsheet or any part therein.***